



Serving SkyWarn Spotters in the Eastern Sierra, Northeast California, and Northwest Nevada



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**Our Mission:**

“The National Weather Service (NWS) provides weather, hydrologic and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy. NWS data and products form a national information database and infrastructure which can be used by other governmental agencies, the private sector, the public, and the global community.”

## Increased Fire Danger This Summer

A warm and fairly dry spring led right into a hot start to summer with an above normal number of windy days, which has increased fire danger. The combination of heavy fuel loading, low fuel moistures, and above normal temperatures all point toward the potential for extreme fire behavior. Fuels have been showing high ignition efficiency which can result in more frequent human or lightning caused starts.

Everyone should be cautious knowing the fuels can ignite easily and spread at a much more rapid rate. In addition, all fires which have started in Nevada this year have already exhibited extreme to advanced fire behavior.

Please take extra precautions making sure to extinguish camp fires, BBQ charcoals, fire pits, etc. Do not engage in activities which may cause sparks, as in these conditions even the smallest sparks can grow into large fires. Also, clear defensible space around your home and clean out any old, dead debris. Be fire safe!

Source: [Fuels and Fire Behavior Advisory](#)

Note: To date as of 7/30/2012	Human Fires/Acres Burned	Lightning Fires/Acres Burned	Total Fires/ Total Acres Burned
<b>2012</b>	260/76,841	164/47,271	424/124,112
<b>5 year average, 2007-2011</b>	169/12,474	208/185,388	376/197,862
<b>*2008-2011</b>	*145/11,150	*174/6,096	*319/17,246

\*2008-2011 stats also given as several large fire complexes broke out in late July 2007, due to lightning, which greatly skew the statistics.

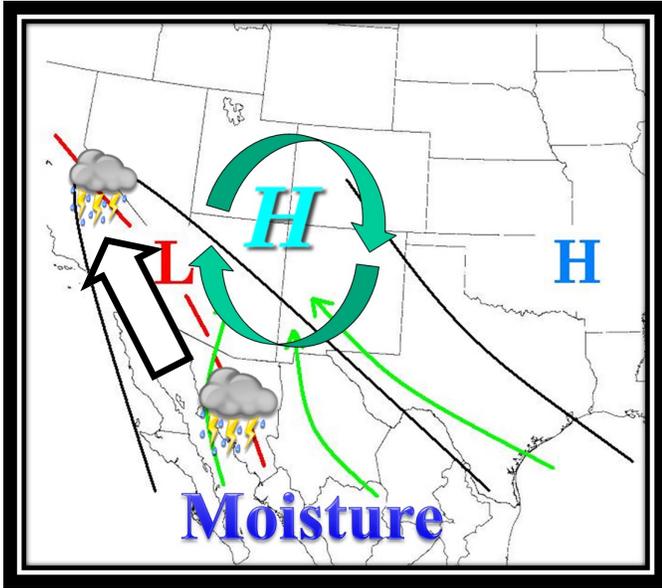
Source: [Western Great Basin Coordination Center](#)

The stats above are for the West Basin area in the image on the right in brown.

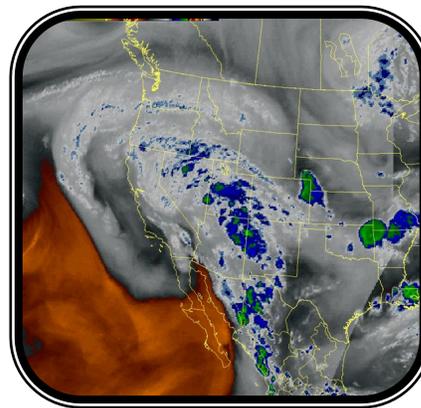


# Best Thunderstorm Patterns

There are 3 main patterns which can bring greater thunderstorm coverage to the Sierra and Western Nevada which include: Monsoonal flow, a negatively tilted trough, and a closed low pressure system.



In the North American Monsoon, the overall wind pattern changes which advects moisture northward from Mexico. When the 4 corners high and thermal low set up (image to left), the flow helps to bring that moisture northward into the Sierra which helps thunderstorms to develop. This pattern can keep thunderstorms over the Sierra for a couple of days up to a week if it persists. Generally speaking, thunderstorms will start out dry, with gusty winds likely, and will become wetter and more widespread the longer the pattern persists.



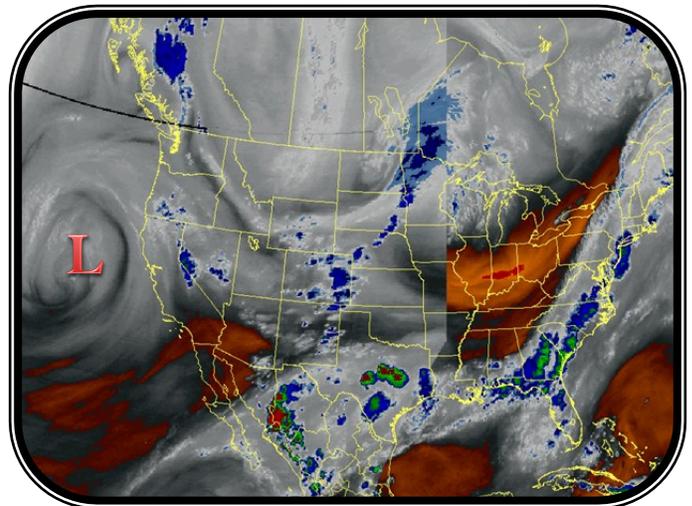
Monsoonal Flow, top 2 images



Negatively tilted Trough

A negatively tilted trough has a northwest/southeast orientation. Negatively tilted troughs are more likely to produce thunderstorms because it means the low has reached its point of maturity, and there is cooler air being advected aloft over warm air at the surface, which will lead to increased instability. In addition there is usually stronger wind shear, which can help to organize storms.

Ahead of an upper low, there is increased lift and instability, in addition to the possibility of moisture flowing into the region from the Pacific. When the cooler air mass associated with the closed low impacts a hot ridge, the thermal difference creates significant instability, helping thunderstorms to initiate. Once the upper low is overhead, the cold pool aloft will keep convective showers going throughout the day, and in some cases there will be additional thunderstorms.



Upper Level Closed Low

## *What Should be Reported*

While it is always important to report all significant weather conditions to your National Weather Service office, the following items are the most likely to need reporting this time of the year:

- Heavy Rain (1/2 an inch in half an hour or less), especially on recent (the past few years) burn scars
- Flash Flooding
- Strong Winds—anything greater than 45 mph (not including ridges) from thunderstorms or a big wind event
- Hail—all hail reports are helpful, but mainly hail greater than 1/2 half inch in diameter. (Keep in mind severe hail needs to be 1 inch in diameter or larger, which is quarter-sized). Small hail covering the road is also significant.
- Funnel Cloud—Make sure that it is rotating
- Tornado—Make sure it is rotating and is in contact with the ground
- Wildfires—Please call 911 first



## *Dual-Polarization Radar Coming to Reno*

The KRGX radar, operated by the Reno National Weather Service office, will be upgraded to dual-polarization technology this fall. This upgrade will begin September 3, 2012 and the modification is expected to take approximately 12 days. During this time the Reno radar will be unavailable, though neighboring radars at Sacramento (KDAX), Beale Air Force Base (KBBX), Medford (KMAX), Elko (KLRX), and Hanford (KHNX) will continue to provide coverage for portions of the KRGX area during this upgrade.

This modification is part of an upgrade to the National Weather Service network of radars. Dual Polarization technology will give forecasters more information about precipitation type, shape, size, and intensity. This will lead to better detection of heavy rainfall during flash flooding events, the presence of hail in thunderstorms, precipitation type during winter events, as well as better estimates of rain and snowfall accumulations.

For more information regarding dual-polarization radar, please visit the [Warning Decision Training Branch Website](#).

Please keep in mind that while this new upgrade will help us better detect what is going on within a storm, that you as a spotter are still an integral part of our decision making and our verification process. We still need, and greatly appreciate, your reports as you are our eyes and ears on the ground and can verify what is happening in your location.

## National Weather Service

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We're on the Web!

[weather.gov/Reno](http://weather.gov/Reno)

## New! Follow us on Twitter!

The National Weather Service in Reno is now on Twitter! Follow us [@NWSReno](https://twitter.com/NWSReno).



### NWS Reno

@NWSReno

This is an experimental service to explore Twitter use to extend the reach of NWS information. Visit <http://goo.gl/C9g6j> for details and to provide comments.  
Reno, NV <http://www.weather.gov/reno>

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Hazy conditions from Peak fire in E. Plumas Count #renowx



NWS Reno @NWSReno

Drought statement for Nevada and Eastern Califor #tahoewx #renowx #cawx #nvwx #drought



NWS Reno @NWSReno

Hazy conditions in Reno area caused by Peak fire NEW - #Peak\_CAPNF bit.ly/MTHLIB. #renowx #nvwx



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Can you name these clouds ow.ly/O2v8 ? Free S here! ow.ly/czpz0 #tahoewx #renowx #cawx #nvwx



NWS Reno @NWSReno

Quiet, warm, and dry weather for Sierra and West ow.ly/czpz5 #renowx #tahoewx #cawx #nvwx

We'll also follow your tweets with popular hashtags such as #nvwx, #tahoe, #cawx, #renowweather, etc . . . So let us know what is happening by you!

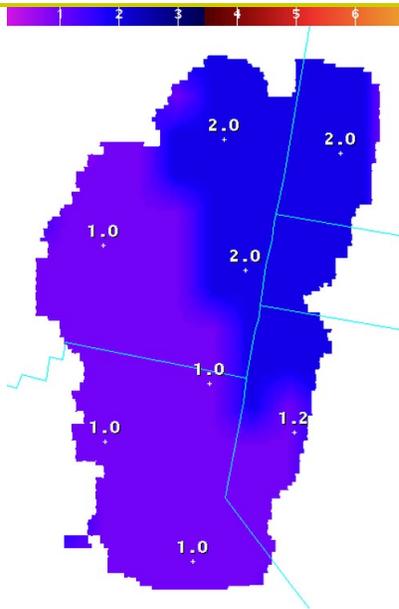
## Lake Forecasts

Your National Weather Service office produces [lake forecasts](#) daily for both Lake Tahoe and Pyramid Lake. These include weather, wind speed and direction, temperatures, and wave heights. Wind and wave heights are also available graphically [here](#).

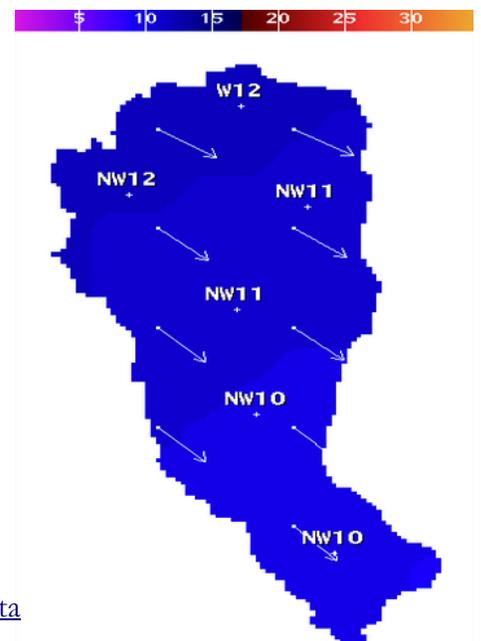
Knowing the forecast wave heights can be especially important for those in smaller boats such as kayaks or canoes, as well as stand up paddleboards. If you are looking for calmer water, you may be able to focus on one part of Lake Tahoe or Pyramid Lake.

Lake Wind Advisories are issued when winds are either sustained at 20 mph or greater or gusting over 30 mph for at least 3 hours, which will generally produce 2-3 foot waves or greater. These are issued for Pyramid Lake and Lake Tahoe year-round, and for all area lakes in Northeast California, the Sierra, and Western Nevada from Memorial Day weekend through Labor Day weekend.

Some of the largest waves ever seen on Lake Tahoe occurred on Dec 1-2, 2011 due to a sustained high wind event. More information and some incredible pictures of the event can be found [here](#).



**Left:** An example of the wave height forecast in feet for Lake Tahoe. Wave heights are defined as the average of the tallest 1/3 of all waves.



**Right:** An example of the wind speed (mph) and direction graphical forecast for Pyramid Lake

[Tahoe Buoy Data](#)

[Surface Observation Maps](#)